

WHAT IS CLAIMED IS:

1 1. A method for establishing a connection between a receiver and a
2 transmitter, located at a distance from each other, comprising the steps of:
3 sending lightwaves carrying data signals and beacon light from the transmitter,
4 using an acquisition receiver for acquiring the lightwaves in the receiver,
5 generating acquisition sensor signals from the received lightwaves in the
6 receiver,

7 wherein, the lightwaves conducted in the receiver are fed to a beam splitter, an
8 acquisition sensor and a scanning device, and
9 by means of the scanning device, an additional signal is obtained, which is
10 used to make acquisition easier.

1 2. The method in accordance with claim 1,
2 wherein light from the scanning is conducted over a first lightwave fiber to a
3 diplexer, and light is split off from this diplexer and conducted to a detector over a second
4 lightwave fiber, which provides an additional signal for making acquisition easier.

1 3. The method in accordance with claim 2,
2 wherein light, which arrives via the first lightwave fiber and the diplexer, is
3 also conducted to an optical waveguide coupler, in which this light, and light from a local
4 laser conducted through a third lightwave fiber, are mixed, wherein the mixed light is split
5 into two parts, each of which reaches a further detector via respective further lightwave fiber
6 for generating at least one error signal.

1 4. A device for establishing a connection between a receiver and a
2 transmitter, comprising:
3 a receiver telescope and a fine alignment mechanism with a beam splitter,
4 which beam splitter is designed to provide light via optical means to an acquisition sensor, as
5 well as to a scanning device, and,
6 with the aid of the scanning device, both a useful signal, and an additional
7 signal, which is effective independently of or together with the acquisition sensor signal in
8 the acquisition phase, are obtained.

2 5. The device in accordance with claim 4,
3 wherein the scanning device is connected via a first lightwave fiber with a
4 diplexer, downstream of which a detector is connected via a second lightwave fiber and
5 provides an additional signal for making acquisition easier.

1 6. The device in accordance with claim 5,
2 further comprising an optical waveguide coupler, whose input is connected via
3 a third lightwave fiber with the diplexer and which, with coherent heterodyne reception,
4 mixes light arriving from the diplexer and light from a local laser, conducted over a fourth
5 lightwave fiber, and split into two parts, which reach a detector via a respective further
6 lightwave fiber for generating at least one error signal.

1 7. The device in accordance with claim 5, further comprising a first
2 detector connected with a discriminator, which delivers an additional signal to a system
3 control.

1 8. The device in accordance with claim 7,
2 further comprising a second discriminator, connected downstream of said
3 detector, which delivers at least one error signal to said system control.

5 9. The device in accordance with claim 7,
 wherein the scanning device is connected to a control, which provides
 command signals for a discriminator.

10 10. The device in accordance with claim 4,
 wherein the receiver telescope is connected to the system control by means of
 a **CPA** control or an **FPA** control.